



Billing Code: 4150-31

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

Findings of Research Misconduct

AGENCY: Office of the Secretary, HHS.

ACTION: Notice.

SUMMARY: Findings of research misconduct have been made against Mr. Logan Fulford (Respondent), who was a graduate research assistant, Cincinnati Children's Hospital Medical Center (CCHMC), and former graduate student, University of Cincinnati (UC). Mr. Fulford engaged in research misconduct in research supported by National Cancer Institute (NCI), National Institutes of Health (NIH), grant R01 CA142724 and National Heart, Lung, and Blood Institute (NHLBI), NIH, grant R01 HL084151. The administrative actions, including supervision for a period of two (2) years, were implemented beginning on May 8, 2020, and are detailed below.

FOR FURTHER INFORMATION CONTACT:

Elisabeth A. Handley
Director
Office of Research Integrity
1101 Wootton Parkway, Suite 240
Rockville, MD 20852
(240) 453-8200

SUPPLEMENTARY INFORMATION: Notice is hereby given that the Office of Research Integrity (ORI) has taken final action in the following case:

Mr. Logan Fulford, Cincinnati Children's Hospital Medical Center: Based on the report of an investigation conducted by CCHMC and additional analysis conducted by ORI in its oversight review, ORI found that Mr. Logan Fulford, former graduate research assistant, CCHMC, and former graduate student, UC, engaged in research misconduct in research supported by NCI, NIH, grant R01 CA142724 and NHLBI, NIH, grant R01 HL084151.

Respondent neither admits nor denies ORI's findings of research misconduct; the settlement is not an admission of liability on the part of the Respondent. The parties entered into a Voluntary Settlement Agreement (Agreement) to conclude this matter without further expenditure of time, finances, or other resources.

ORI found that Respondent engaged in research misconduct by intentionally, knowingly, and/or recklessly falsifying data that were included in:

- The transcription factor FOXF1 promotes prostate cancer by stimulating the mitogen-activated protein kinase ERK5. *Science Signaling* 2016 May;9:427 (hereafter referred to as "*Science Signaling* 2016").
- Foxf1 Deficient Cancer-Associated Fibroblasts Promote Prostate Cancer Progression via Paracrine Wnt11 Signaling. Unpublished manuscript (hereafter referred to as the "unpublished manuscript").

ORI found that Respondent intentionally, knowingly, and/or recklessly falsified immunohistochemistry and western blot data included in *Science Signaling* 2016 and in an unpublished manuscript, by reusing and relabeling images to represent the expression of different proteins and/or different experimental conditions. Specifically:

- in Figure 2C of *Science Signaling* 2016, Respondent reused one immunohistochemistry image, to represent Cle casp-3 expression in Myc-CaP tumors under both Control and FoxF1-OE conditions and used another immunohistochemistry image to represent Cle casp-3 expression in TRAMP tumors under both Control and FoxF1-OE conditions
- in Figure S4E of *Science Signaling* 2016, Respondent reused and relabeled western blot panels to represent the expression of multiple different proteins under different experimental conditions. Specifically:
 - Respondent used different exposures of the source blot to represent FOXF1 or WNK1 expression in 22RV1 tumors transfected with scramble RNA or shFOXF1, or pERK5 expression in C4-2B tumors transfected with scramble RNA or shFOXF1
 - Respondent used different exposures and size scaling of the source blot to represent MAP3K2 or pERK5 expression in 22RV1 tumors transfected with scramble RNA or shFOXF1 or FOXF1 or WNK1 expression in C4-2B tumors transfected with scramble RNA or shFOXF1, or FOXF1 or WNK1 expression in C4-2B tumors transfected with scramble or shFOXF1
 - Respondent used background lightening/darkening and size scaling of the source blot to represent β -ACTIN expression in 22RV1 tumors transfected with scramble or shFOXF1, or Total ERK5 expression in C4-2B tumors transfected with scramble RNA or shFOXF1
 - Respondent used size scaling and rotation of the source blot to represent Total ERK5 in 22RV1 tumors transfected with scramble RNA or shFOXF1, or β -ACTIN expression in C4-2B tumors transfected with scramble RNA or shFOXF1

- in Figure 7C of *Science Signaling* 2016, Respondent reused and relabeled one source western blot panel to represent the expression of different proteins in the presence of FOXF1 overexpression. Specifically:
 - different exposures, size scaling, and rotation of the same blot were used to represent β -Actin, pERK5, Total ERK, and MAP3K2 expression in FOXF1-overexpressing Myc-CaP tumors transduced with scramble RNA, shMAP3K2 RNA, shWNK1, or both
- in Figure S3B of *Science Signaling* 2016, Respondent spliced, size scaled, and rotated the source western blot representing expression of Erk5 in TRAMP tumors and represented it as both pERK5 and Total ERK5 expression in TRAMP tumors under both control and FOXF1-OE conditions
- in Figure 3B of the unpublished manuscript, Respondent fabricated the data to falsely represent the upregulation of Wnt11 mRNA in human fibroblasts from prostate cancer samples, compared to those from normal patient samples
- in Figures 3F and S8 of the unpublished manuscript, Respondent reused and relabeled source western blot panels representing Wnt11 expression in HeLa (cervical cancer) to represent Wnt11 expression in MDA-MB-231 fibroblasts (prostate cancer)

As a result of the investigation, *Science Signaling* 2016 was retracted in: *Science Signaling* 2018 Jul;11:541.

Mr. Fulford entered into an Agreement and agreed to the following:

- (1) Respondent agreed to have his research supervised for a period of two (2) years beginning on May 8, 2020. Respondent agreed that prior to the submission of an application for U.S. Public Health Service (PHS) support for a project on which Respondent's participation is proposed and prior to Respondent's participation in any

capacity on PHS-supported research, Respondent shall ensure that a plan for supervision of Respondent's duties is submitted to ORI for approval. The supervision plan must be designed to ensure the scientific integrity of Respondent's research contribution.

Respondent agreed that he shall not participate in any PHS-supported research until such a supervision plan is submitted to and approved by ORI. Respondent agreed to maintain responsibility for compliance with the agreed upon supervision plan.

- (2) The requirements for Respondent's supervision plan are as follows:
 - i. A committee of 2-3 senior faculty members at the institution who are familiar with Respondent's field of research, but not including Respondent's supervisor or collaborators, will provide oversight and guidance for two (2) years from the effective date of the Agreement. The committee will review primary data from Respondent's laboratory on a quarterly basis and submit a report to ORI at six (6) month intervals, setting forth the committee meeting dates and Respondent's compliance with appropriate research standards and confirming the integrity of Respondent's research.
 - ii. The committee will conduct an advance review of any PHS grant applications (including supplements, resubmissions, etc.), manuscripts reporting PHS-funded research submitted for publication, and abstracts. The review will include a discussion with Respondent of the primary data represented in those documents and will include a certification to ORI that the data presented in the proposed application/publication is supported by the research record.
- (3) If no supervisory plan is provided to ORI, Respondent agreed to provide certification to ORI at the conclusion of the supervision period that he has not engaged in, applied for, or

had his name included on any application, proposal, or other request for PHS funds without prior notification to ORI.

- (4) Respondent agreed to exclude himself voluntarily from serving in any advisory capacity to PHS including, but not limited to, service on any PHS advisory committee, board, and/or peer review committee, or as a consultant for a period of two (2) years, beginning on May 8, 2020.

Dated: May 19, 2020.

Elisabeth A. Handley,

Director, Office of Research Integrity,

Office of the Assistant Secretary for Health.

[FR Doc. 2020-11158 Filed: 5/22/2020 8:45 am; Publication Date: 5/26/2020]